



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/593,756

07/24/2007

Murray Edward Bruce Leighton

769-399

3380

51468

7590

01/28/2010

DAY PITNEY LLP

ACCOUNT: ILLINOIS TOOL WORKS INC.

7 TIMES SQUARE

NEW YORK, NY 10036-7311

EXAMINER

GOFF II, JOHN L

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

01/28/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,756	Applicant(s) LEIGHTON, MURRAY EDWARD BRUCE	
	Examiner John L. Goff	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/7/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 7-10 are objected to because of the following informalities: In claim 7, line 3 delete “over an” and insert therein - - an - - for clarity. In claim 9, line 2 delete “and” and insert therein - - an - - for clarity. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 3 requires “in which the pressure is applied as the sole external means of joining the profile end portions”. It is unclear what is required by “the sole external means”. Claim 1 and applicants specification describe the joining is performed by the application of both external pressure and external heat. The specification describes in page 5 “The strips thus become fused together as the melted or softened material solidifies or hardens”. Thus, in view of claim 1 requiring “a heated probe” and applicants description of the joining in the specification it is unclear how the pressure applied is the sole external means of joining. Claim 3 is therefore interpreted as not excluding heat from the heated probe as external means for joining.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Herrington (U.S. Patent 5,088,971).

Regarding claims 1-3, Herrington discloses a method of joining an end of a pair of zipper profiles comprising bringing the zipper profiles (14, 15) into engagement with each other at least over an end portion at which the profiles are to be joined, applying external pressure (e.g. via 40, 41) to the end portion of the zipper, introducing a heated probe (45) into the engaged end portions of the zipper profiles in order to form a recess in the zipper profile in the region of the probe. Regarding claim 2, the pressure is applied at least before external heat is applied. Regarding claim 3, the sole external means of joining the profile end portions are the temperature probe and externally applied pressure (Figures 1 and 2 and Column 3, lines 6-13 and Column 4, lines 21-60).

Regarding claims 7 and 9, Herrington discloses an apparatus comprising a first half of a clamp (40, 41), a second half of a clamp (40, 41), and a probe (45) movable between a first position which in use it is clear of engaged profile lengths and a second position in which it has penetrated into the material of an end portion.

As to the “means for receiving a pair of zipper profile lengths in engagement with each other over at least over an end portion at which the profiles are to be joined”, this claim

Art Unit: 1791

limitation is considered to invoke 35 USC 112 sixth paragraph and has been treated as such. The first half of the clamp (40, 41), e.g. the left half of the clamp in Figure 1, is capable of performing the identical function of the claimed means, i.e. receiving a pair of zipper profile lengths in engagement with other over at least an end portion at which the profiles are to be joined, such that the first half of the clamp is considered an equivalent means.

As to the “means for heating the probe”, this claim limitation is considered to invoke 35 USC 112 sixth paragraph and has been treated as such. Herrington teaches a heating element (45a) comprising an electrical heating element within a non-front considered rear portion of the probe which element is capable of performing the identical function of the claimed means, i.e. heating the probe, such that the element is considered an equivalent means.

As for the “means for applying external pressure to the zipper profile end portions when the probe is in its second position”, this claim limitation is considered to invoke 35 USC 112 sixth paragraph and has been treated as such. The second half of the clamp (40, 41), e.g. the right half of the clamp in Figure 1, is capable of performing the identical function of the claimed means, i.e. applying external pressure to the zipper profile end portions when the probe is in its second position, such that the second half of the clamp is considered an equivalent means.

Regarding the limitation of “for joining the ends of a pair of zipper profiles”, “for receiving a pair of zipper profile lengths in engagement with each other over at least over an end portion at which the profiles are to be joined”, “which is movable between a first position in which, in use, it is clear of the engaged profile lengths and a second position in which it has penetrated into the material of the end portions”, “for heating the probe”, and “for applying external pressure to the zipper profile end portions when the probe is in its second position”,

Art Unit: 1791

these limitations are directed to either the material worked upon or the intended use of the apparatus. “Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” (MPEP 2115). The apparatus taught by Herrington is capable of working upon the materials claimed, i.e. a pair of zipper profiles. A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim (MPEP 2114). The apparatus taught by Herrington includes all of the claimed structure of the claims, i.e. means for receiving, probe, means for heating, and means for applying, which structure is capable of the claimed intended use.

7. Claims 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson (U.S. Patent 3,388,021).

Johnson discloses an apparatus comprising supports (22, 23), support clamping means not shown, and a probe (24) movable between a first position which in use it is clear of engaged profile lengths and a second position in which it has penetrated into the material of the end portion of the profile lengths (Figures 1, 8, and 14 and Column 4, lines 4-64).

As to the “means for receiving a pair of zipper profile lengths in engagement with each other over at least over an end portion at which the profiles are to be joined”, this claim limitation is considered to invoke 35 USC 112 sixth paragraph and has been treated as such. The supports (22, 23) are capable of performing the identical function of the claimed means, i.e. receiving a pair of zipper profile lengths in engagement with each other over at least an end

Art Unit: 1791

portion at which the profiles are to be joined, such that the support are considered an equivalent means. It is further noted a single support (22 or 23) is also an equivalent means.

As to the “means for heating the probe”, this claim limitation is considered to invoke 35 USC 112 sixth paragraph and has been treated as such. Johnson teaches a heating element (79) comprising an electrical heating element in a non-front considered rear portion of the probe which element is capable of performing the identical function of the claimed means, i.e. heating the probe, such that the element is considered an equivalent means.

As for the “means for applying external pressure to the zipper profile end portions when the probe is in its second position”, this claim limitation is considered to invoke 35 USC 112 sixth paragraph and has been treated as such. The support clamping means is capable of performing the identical function of the claimed means, i.e. applying external pressure to the zipper profile end portions when the probe is in its second position, such that the support clamping means are considered an equivalent means. It is further noted the other single support (22 or 23) not used as the means for receiving is also an equivalent means for applying external pressure.

Regarding the limitation of “for joining the ends of a pair of zipper profiles”, “for receiving a pair of zipper profile lengths in engagement with each other over at least over an end portion at which the profiles are to be joined”, “which is movable between a first position in which, in use, it is clear of the engaged profile lengths and a second position in which it has penetrated into the material of the end portions”, “for heating the probe”, and “for applying external pressure to the zipper profile end portions when the probe is in its second position”, these limitations are directed to either the material worked upon or the intended use of the

Art Unit: 1791

apparatus. “Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” (MPEP 2115). The apparatus taught by Johnson is capable of working upon the materials claimed, i.e. a pair of zipper profiles. A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim (MPEP 2114). The apparatus taught by Johnson includes all of the claimed structure of the claims, i.e. means for receiving, probe, means for heating, and means for applying, which structure is capable of the claimed intended use.

Regarding claim 8, the probe taught by Johnson is capable of moving between its first and second position in a direction substantially longitudinally of the profiles.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Applicants specification pages 1-2) in view of Johnson.

The admitted prior art discloses it was known to join an end of a pair of plastic zipper profiles by bringing the zipper profiles into engagement with each other at least over an end portion at which the profiles are to be joined and applying external heat and external pressure to

Art Unit: 1791

the end portion of the zipper (Specification page 1, line 3 to page 2, line 6). The admitted prior art does not teach applying the heat by introducing a heated probe. It was known in the art to join an end of a pair of plastic profiles (20, 21) by bringing the profiles into engagement with each other at least over an end portion at which the profiles are to be joined, applying external pressure (via supports 22 and 23 and support clamping means not shown) to the end portion, introducing a heated probe (24) into the engaged end portions of the profiles in order to form a recess in the profile material in the region of the probe, and withdrawing the probe as shown by Johnson. Johnson teaches internally applying the heat via the heated probe reduces the heating duration required as compared to when the heat is externally applied (Column 1, lines 36-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the heat to the end portion of the zipper as taught by the admitted prior art using the heated probe as shown by Johnson to reduce the heating duration.

Regarding claim 2, the pressure is applied before the application of external heat. Regarding claim 3, the sole external means of joining the profile end portions are the temperature probe and externally applied pressure. Regarding claim 4, the probe is introduced into the profile end portions in a direction substantially longitudinally of the profile lengths as shown by Johnson. Regarding claims 7-9, Johnson teaches the means claimed as more fully set forth above. Regarding claims 6 and 10, the admitted prior art as modified by Johnson teaches a method and apparatus for joining an end of a pair of plastic zipper profiles. The admitted prior art is silent to joining the other end either simultaneously or sequentially. It would have been obvious to one of ordinary skill in the art at the time the invention was made performing the admitted prior art as modified by Johnson to join the other end of the pair of plastic zipper

Art Unit: 1791

profiles either simultaneously with or subsequent to joining the first end wherein simultaneously joining obviously requires a second apparatus but has the improvement of faster joining and sequentially joining obviously does not require a second apparatus but has the disadvantage of joining taking twice as long. It is noted a second apparatus in the admitted prior art as modified Johnson includes the probe, heating means, and external pressure means near, i.e. at, an end of the receiving means of the first apparatus opposite the end of the receiving means near the first probe.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Johnson as applied to claims 1-4 and 6-10 above, and further in view of Mojonnier et al. (U.S. Patent 3,600,248).

The admitted prior art and Johnson as applied above teach melting the plastic profiles to form the recess without a specific recitation of vaporizing the profile materials. It was known in the art of melting plastic profiles to join the profiles together using a heating element that contacts the profiles that the profile material is at least vaporized in the region of the element to prevent the plastic from sticking to the element as shown by Mojonnier (Column 3, lines 43-52). It would have been obvious to one of ordinary skill in the art at the time the invention was made performing the method taught by the admitted prior art as modified by Johnson to heat the plastic profiles at least until they vaporize within the region of the heated probe to prevent the plastic profile material from sticking to the probe as suggested by Mojonnier.

Art Unit: 1791

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571)272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff/
Primary Examiner, Art Unit 1791